

## CLAIMS

1. A method for facilitating language learning which is performed over a target language that can be a foreign language or the native language of the learner, wherein said method is characterized by the user listening to certain aural reproductions utilizing certain facilitating means, wherein
  - a. said facilitating means facilitate that the user perceive the sonorous features of the target language, i.e. those features that are related to the pronunciation, the intonation, the rhythm, the metrical structure, and/or the prosody of the target language; said facilitating means facilitate that the user develops the capacity to perform said perception; or said facilitating means facilitate to achieve both goals,
  - b. said aural reproductions might have been generated with real utterances produced by speakers or by speech technology systems, and said aural reproductions can be full reproductions or empty reproductions, wherein
    - full reproductions correspond to real samples of the target language,
    - empty reproductions are not real samples of target language, but they contain sequences of sounds that reproduce the prosodic patterns of the target language by variations in tone, intensity or duration,

wherein said method can be used in isolated fashion or as a complement in an approach whose goal might be to facilitate language learning, to present samples of a foreign language, or to correct some problem in the utilization of a native language.
2. A method as claimed in claim 1, wherein said empty reproductions might have been created by a plurality of ways, such as for example one of the following:
  - filtering full reproductions of the target language, so that the phonetic information of such full reproductions is eliminated or greatly reduced, while at the same time the prosodic information of said full reproductions is maintained,
  - linking syllable sounds, such as for example “la-la-la...” or other syllables that might be equal or different to each other,
  - after full reproductions, in such as way that all the vocalic sounds are replaced by the same vowel, so that the empty reproductions have a similar prosody to the prosody that those full reproductions have,
  - linking sounds whose wave form is periodic, such as for example pure tones or vocalic sounds,

- after full reproductions, by removing consonants so that only vocalic sounds remain, and the resulting reproductions have a similar prosody to the prosody that said full reproductions have,
- in any other way

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3. A method as claimed in claim 1, which is performed by performing one or more exercises, wherein for at least one of said exercises there exist one or more empty reproductions and one or more real samples of the target language, so that for at least one of said empty reproductions there is at least one real sample, among said real samples of the target language, that has an equivalent prosodic content, wherein said method comprises the steps of:

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- presenting the learner with characterizing information about one or more of said real samples of the target language,
- associating, by the learner, of the empty reproductions with the real samples of the target language that have a similar prosodic content as they have.

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4. A method as claimed in claim 3, wherein said characterizing information that is presented to the user about said real samples of target languages are the sonorous reproductions of said real samples of language, i.e., they are full reproductions.

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5. A method as claimed in claim 3, wherein said characterizing information that is presented to the user about said real samples of target language are the written transcripts of said real language samples.

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6. A method as claimed in claim 3, wherein there exists one single empty reproduction, and the learner must indicate the real sample or real samples of target language that correspond to said empty reproduction..

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7. A method as claimed in claim 3, wherein there exists one single real sample of target language, and the learner must indicate the empty reproduction or reproductions that correspond to said real sample of target language.

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8. A method as claimed in claim 1, wherein the main characteristic of said facilitating means is that said aural reproductions are empty reproductions and the user listens to them repetitively, so that the user develops a familiarity with the prosodic patterns of the target language, given

that he/she is not simultaneously perceiving the lexical aspects of said language and can focus on those patterns.

9. A method as claimed in claim 1, wherein said aural reproductions are full reproductions, and  
5 said facilitating means are based on an exaggeration of the prosodic variations in a similar way as baby care takers do when they speak to babies.
10. A method as claimed in claim 1, wherein said aural reproductions are full reproductions, and  
10 said facilitating means are characterized because certain parts of said aural reproductions have been aurally emphasized, where said aural emphasizing can be done by one or more or the ways included in the following plurality of ways,
  - modifying the duration of said sounds,
  - modifying the sonorous intensity of said sounds,
  - modifying the basic frequency of said sounds,
  - 15 – performing one or more of the previous actions,
  - executing the reproduction in a way that emphasizes the syllables,
  - executing the reproduction in a way that emphasizes the words,
  - in any other way.
- 20 11. A method as claimed in claim 1 wherein said aural reproductions are full reproductions and wherein the main characteristic of said facilitating means is that said aural reproductions are chosen in a way that they contain a high percentage of syllables that have some features in common, so that it facilitates the perception of the rhythm of syllables in a similar way as  
25 does a metronome, wherein said syllables that have features in common can be of several types, wherein one of said types is the syllable type that is made up of a consonant and a vowel.
12. A method as claimed in claim 1, wherein said facilitating means comprise a high pass  
30 frequency filtering to intensify the high frequencies of the reproduction and facilitate the identification of phonetic and phonological features that exist in that frequency range, where the form of the filter is similar to the form of the natural filtering performed by the conduct of the external ear of young children, and especially emphasizes the frequencies that are above the 2000 Hz.

13. A method as claimed in claim 1 wherein said aural reproductions are full reproductions and wherein said facilitating means comprise the simultaneous reading of a written transcript of the language sample that is being reproduced, so that the user learns to associate the sounds that he/she is listening to the evolution of those sounds with the meaning that those sounds transmit.
14. A method as claimed in claim 1 wherein said aural reproductions are full reproductions and wherein said facilitating means are based on providing the user with instructions to listen those full reproductions in a special way.
15. A method as claimed in claim 14 wherein said special way is based on providing the user with instructions to pay attention to perceive the evolution of one of the following features:
- the rhythm of certain parts of said full reproductions,
  - the vocalic sounds, i.e., vowels, semivowels and diphthongs,
  - the vowels,
  - the consonants,
  - the syllables or a part of them such as their nucleus,
  - the words, which would yield the user to follow the rhythm of appearance of words,
  - groups of words that because of the prosody of the reproduction seem to have some relationship among themselves.
16. A method as claimed in claim 1 wherein said aural reproductions are full reproductions and said facilitating means are based on the fact that said full reproductions have a rhythmical structure associated to the linguistic rhythm which facilitates the user to better perceive the syllabic rhythm of the language, wherein said full reproductions can be of one of the following types
- songs or song fragments,
  - poems or poem fragments.
17. A method as claimed in claim 16, wherein said full reproductions are songs or song fragments and in said songs or song fragments it happens that a high percentage of the notes have the same duration, and for a high percentage of the notes there exists a single syllable, and for said syllables there exist a single note.

18. A method as claimed in claim 16 wherein said full reproductions are poems or poem fragments and in said poems or poem fragments it happens that a high percentage of the metrical feet have the same number of syllables.

5 19. A system for facilitating language learning which is performed over a target language that can be a foreign language or the native language of the learner, wherein said system comprises the following means:

- a. means to create certain aural reproductions that the user will listen to,
- 10 b. facilitating means that facilitate that the user perceive the sonorous characteristics of the target language, i.e., characteristics that are related to the pronunciation, the intonation, the rhythm, the metrical structure, and/or the prosody of the target language; that facilitate that the user develops the capacity to perform said perception; or that facilitate to achieve both goals,

15 wherein said aural reproductions might have been generated with real utterances produced by speakers or by speech technology systems, and said aural reproductions can be full reproductions or empty reproductions, wherein

- full reproductions correspond to real samples of the target language,
- empty reproductions are not real samples of target language, but they contain sequences of sounds that reproduce the prosodic patterns of the target language by
- 20 variations in tone, intensity or duration,

wherein said method can be used in isolated fashion or as a complement in an approach whose goal might be to facilitate language learning, to present samples of a foreign language, or to correct some problem in the utilization of a native language.

25 20. A system as claimed in claim 19, wherein said empty reproductions might have been created by a plurality of ways, such as for example one of the following:

- filtering full reproductions of the target language, so that the phonetic information of such full reproductions is eliminated or greatly reduced, while at the same time the prosodic information of said full reproductions is maintained,
- 30 – linking syllable sounds, such as for example “la-la-la...” or other syllables that might be equal or different to each other,
- after full reproductions, in such as way that all the vocalic sounds are replaced by the same vowel, so that the empty reproductions have a similar prosody to the prosody that those full reproductions have,

- linking sounds whose wave form is periodic, such as for example pure tones or vocalic sounds,
- after full reproductions, by removing consonants so that only vocalic sounds remain, and the resulting reproductions have a similar prosody to the prosody that said full reproductions have,
- in any other way

21. A system as claimed in claim 19, further comprising means to execute one or more exercises, wherein for at least one of said exercises there exist one or more empty reproductions and one or more real samples of the target language, so that for at least one of said empty reproductions there is at least one real sample, among said real samples of the target language, that has an equivalent prosodic content, wherein said exercise comprises the steps of:

- presenting the learner with characterizing information about one or more of said real samples of the target language,
- associating, by the learner, of the empty reproductions with the real samples of the target language that have a similar prosodic content as they have.

22. A system as claimed in claim 21, wherein said characterizing information that is presented to the user about said real samples of target languages are the sonorous reproductions of said real samples of language, i.e., they are full reproductions.

23. A system as claimed in claim 21, wherein said characterizing information that is presented to the user about said real samples of target language are the written transcripts of said real language samples.

24. A system as claimed in claim 21, wherein there exists one single empty reproduction, and the learner must indicate the real sample or real samples of target language that correspond to said empty reproduction..

25. A system as claimed in claim 21, wherein there exists one single real sample of target language, and the learner must indicate the empty reproduction or reproductions that correspond to said real sample of target language.



26. A system as claimed in claim 19, wherein the main characteristic of said facilitating means is that said aural reproductions are empty reproductions and the user listens to them repetitively, so that the user develops a familiarity with the prosodic patterns of the target language, given that he/she is not simultaneously perceiving the lexical aspects of said language and can focus on those patterns.
27. A system as claimed in claim 19, wherein said aural reproductions are full reproductions, and said facilitating means are based on an exaggeration of the prosodic variations in a similar way as baby care takers do when they speak to babies.
28. A system as claimed in claim 19, wherein said aural reproductions are full reproductions, and said facilitating means are characterized because certain parts of said aural reproductions have been aurally emphasized, where said aural emphasizing can be done by one or more or the ways included in the following plurality of ways,
- modifying the duration of said sounds,
  - modifying the sonorous intensity of said sounds,
  - modifying the basic frequency of said sounds,
  - performing one or more of the previous actions,
  - executing the reproduction in a way that emphasizes the syllables,
  - executing the reproduction in a way that emphasizes the words,
  - in any other way.
29. A system as claimed in claim 19 wherein said aural reproductions are full reproductions and wherein the main characteristic of said facilitating means is that said aural reproductions are chosen in a way that they contain a high percentage of syllables that have some features in common, so that it facilitates the perception of the rhythm of syllables in a similar way as does a metronome, wherein said syllables that have features in common can be of several types, wherein one of said types is the syllable type that is made up of a consonant and a vowel.
30. A system as claimed in claim 19, wherein said facilitating means comprise a high pass frequency filtering to intensify the high frequencies of the reproduction and facilitate the identification of phonetic and phonological features that exist in that frequency range, where the form of the filter is similar to the form of the natural filtering performed by the conduct of

the external ear of young children, and especially emphasizes the frequencies that are above the 2000 Hz.

31. A system as claimed in claim 19 wherein said aural reproductions are full reproductions and  
 5 wherein said facilitating means comprise the simultaneous reading of a written transcript of the language sample that is being reproduced, so that the user learns to associate the sounds that he/she is listening to the evolution of those sounds with the meaning that those sounds transmit.
- 10 32. A system as claimed in claim 19 wherein said aural reproductions are full reproductions and wherein said facilitating means are based on providing the user with instructions to listen those full reproductions in a special way.
- 15 33. A system as claimed in claim 32 further comprising means to provide instructions to the user to pay attention to perceive the evolution of one of the following features:
  - the rhythm of certain parts of said full reproductions,
  - the vocalic sounds, i.e., vowels, semivowels and diphthongs,
  - the vowels,
  - the consonants,
  - 20 – the syllables or a part of them such as their nucleus,
  - the words, which would yield the user to follow the rhythm of appearance of words,
  - groups of words that because of the prosody of the reproduction seem to have some relationship among themselves.
- 25 34. A system as claimed in claim 19 wherein said aural reproductions are full reproductions and said facilitating means are based on the fact that said full reproductions have a rhythmical structure associated to the linguistic rhythm which facilitates the user to better perceive the syllabic rhythm of the language, wherein said full reproductions can be of one of the following types
  - 30 – songs or song fragments,
  - poems or poem fragments.
35. A system as claimed in claim 34, wherein said full reproductions are songs or song fragments and in said songs or song fragments it happens that a high percentage of the notes have the



same duration, and for a high percentage of the notes there exists a single syllable, and for said syllables there exist a single note.

36. A system as claimed in claim 34 wherein said full reproductions are poems or poem  
5 fragments and in said poems or poem fragments it happens that a high percentage of the metrical feet have the same number of syllables.

37. A computer program that allows to implement the method of one or more of claims 1 to 18.

10 38. A computer program that allows to implement the system of one or more of claims 19 to 36.

39. An object readable by some way that contains one of the computer programs referred to in claims 37 or 38.

15 40. A set of structured data that allows to implement a system that can be used to implement the method of one or more of the claims 1 to 18.

41. A set of structured data that allows to implement the system of one or more of the claims 19 to 36.

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42. An object readable by some way that contains one of the sets of structured data referred to in the claims 40 or 41.